

IN THE CLAIMS:

The following is a complete listing of the claims, and replaces all earlier version and listings.

1. (currently amended): An image processing method of generating color material data for using a plurality of kinds of color materials_s to output an image, said method comprising the steps of:

inputting an image signal; and

generating a combination of the color material data for the plurality of kinds of color materials_s so that a total color material use amount of the plurality of kinds of color materials_s, which is determined according to the combination of ~~said~~ the plurality kinds of color materials_s corresponding to the inputted image signal, meets a smooth function for the total color material use amount within a range of the image signal that can be inputted.

2. (currently amended): An image processing method as claimed in claim 1, wherein said step of generating the combination includes

determining ~~determines~~ all combinations of the plurality of kinds of color materials_s corresponding to the inputted image signals,

~~calculates~~ calculating the total color material use amounts for said all combinations of the plurality of kinds of color materials_s,

~~determines~~ determining a smooth variation of the total color material use amount to a variation of a predetermined color represented by the inputted image signal, and

~~selects~~ selecting the total color material use amount meeting the determined smooth variation of the total color material use amount from the determined combinations of the plurality of kinds of color materials,

[[so]] such that the total color material use amount of the plurality of kinds of color materials meets the smooth function for the total color material use amount within a range of the image signal that can be inputted.

3. (currently amended): An image processing method as claimed in claim 1, wherein said step of generating the combination ~~generates~~ includes generating the combination corresponding to the inputted image signal with reference to a table, which determines the combination of the plurality kinds of color material so that the total color material use amount of the plurality kinds of color material, which is determined according to the combination of ~~said~~ the plurality kinds of color material, and meets the smooth function for the total color material use amount within a range of the image signal that can be inputted.

4. (original): An image processing method as claimed in claim 1, further comprising the step of forming the smooth function for the total color material use amount.

5. (currently amended): An image processing method as claimed in claim 4, wherein said step of forming the smooth function ~~displays~~ includes displaying a function for a total color material use amount for a predetermined color on a display device and forms the smooth function based on input by an operation on the display.

6. (original): An image processing method as claimed in claim 1, wherein colors of the plurality kinds of color material are yellow, magenta, cyan, and black.

7. (currently amended): An image processing method as claimed in claim 1, wherein colors of the plurality kinds of color material are yellow, magenta, cyan, black, and light magenta₂ having lower concentration than the magenta₂ and light cyan₂ having lower concentration than the cyan.

8. (original): An image processing method as claimed in claim 1, wherein the color material is ink.

9. (original): An image processing method as claimed in claim 1, wherein the color material is toner.

10. (currently amended): An image processing apparatus for generating color material data for using a plurality of kinds of color materials₂ to output an image, ~~said method~~ comprising ~~the steps of:~~

input means for inputting an image signal; and

data generating means for generating a combination of the color material data for the plurality of kinds of color materials so that a total color material use amount of the plurality of kinds of color materials, which is determined according to the combination of ~~said~~ the plurality of kinds of color materials corresponding to the inputted image signal, meets a smooth function for the total color material use amount within a range of the image signal that can be inputted.

11. (original): An image processing apparatus as claimed in claim 10, wherein said data generating means

determines all combinations of the plurality of kinds of color materials corresponding to the inputted image signals,

calculates the total color material use amounts for said all combinations of the plurality of kinds of color materials,

determines a smooth variation of the total color material use amount to a variation of a predetermined color represented by the inputted image signal, and

selects the total color material use amount meeting the determined smooth variation of the total color material use amount from the determined combinations of the plurality of kinds of color materials,

[[so]] such that the total color material use amount of the plurality of kinds of color materials meets the smooth function for the total color material use amount within a range of the image signal that can be inputted.

12. (currently amended): An image processing apparatus as claimed in claim 10, wherein said data generating means generates the combination corresponding to the inputted image signal with reference to a table, which determines the combination of the plurality of kinds of color materials_s so that the total color material use amount of the plurality of kinds of color materials_s, which is determined according to the combination of said plurality of kinds of color materials_s, and meets the smooth function for the total color material use amount within a range of the image signal that can be inputted.

13. (original): An image processing apparatus as claimed in claim 10, further comprising function forming means for forming the smooth function for the total color material use amount.

14. (currently amended): An image processing apparatus as claimed in claim 13, wherein said function forming means displays a function for a total color material use amount for a predetermined color on a display device and forms the smooth function based on input by an operation on the display.

15. (original): An image processing apparatus as claimed in claim 10, wherein colors of the plurality kinds of color material are yellow, magenta, cyan, and black.

16. (currently amended): An image processing apparatus as claimed in claim 10, wherein colors of the plurality kinds of color material are yellow, magenta, cyan,

black, and light magenta, having lower concentration than the magenta, and light cyan, having lower concentration than the cyan.

17. (original): An image processing apparatus as claimed in claim 10, wherein the color material is ink.

18. (original): An image processing apparatus as claimed in claim 10, wherein the color material is toner.

19. (currently amended): A computer medium encoding a program read by a computer to make the computer execute an image processing of generating color material data for using a plurality of kinds of color materials to output an image, ~~said processing the program comprising the steps of:~~

code for inputting an image signal; and

code for generating a combination of the color material data for the plurality of kinds of color materials so that a total color material use amount of the plurality of kinds of color materials, which is determined according to the combination of ~~said the~~ plurality of kinds of color materials corresponding to the inputted image signal, and meets a smooth function for the total color material use amount within a range of the image signal that can be inputted.

20. (currently amended): A ~~storage~~ computer-readable medium storing a program ~~readably by a computer, the program making to make~~ the computer execute an

image processing of generating color material data for using a plurality of kinds of color materialss to output an image, said processing comprising the steps of:

inputting an image signal; and

generating a combination of the color material data for the plurality of kinds of color materialss so that a total color material use amount of the plurality of kinds of color materialss, which is determined according to the combination of ~~said~~ the plurality of kinds of color materialss corresponding to the inputted image signal, and meets a smooth function for the total color material use amount within a range of the image signal that can be inputted.